

Chemistry 4000 Fall 2021
Chemistry Seminar- Writing Intensive
MF 11:45 am- 1:25 pm
DSC 151

Instructors: Christine Blaine

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Office Hours C. Blaine : MW: 1:30-3:00 PM; T: 10:00 -11:30 AM; R: 7:00-8:00 PM (Zoom) or by appointment

Office Hours J Kirk: M: 1:30 – 3:30 PM; Tu/Th: 1:00 – 2:30 PM or by appointment

John Kirk

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Course Description: This capstone course integrates and applies your foundational knowledge of chemistry to the primary literature and/or an independent research project. Your ability to effectively communicate and defend your understanding of the project, in both written and oral form, is essential to your future career in science.

STUDENT LEARNING OUTCOMES

- To identify the subsections of primary literature (introduction, methods, results, discussion)
- To analyze results from own research and/or published articles
- To write a 13 to 15-page thesis
- To orally defend written thesis in a question and answer format with faculty
- To present thesis to the broader community
- To participate in being a peer reviewer of written and oral communication
- To prepare a resume and cover letter

TEXTBOOK AND MATERIALS

- Course materials uploaded on Schoology

MASK and COVID-19 POLICY

Due to the ongoing pandemic, Carthage College has adopted a policy requiring masks to be worn by all individuals in all buildings. Masks must be worn at all times in the classroom, laboratory, studio spaces, hallways, bathrooms, and during in-person meetings. The face covering must conform to CDC guidelines and must cover both the nose and mouth at all times. Note that bandanas, neck gaiters, and masks with exhalation or external valves are not acceptable and are not sufficient for protection of others or yourself. Acceptable masks tie behind the head or loop behind the ears, fit snugly over the nose and chin, and can include cloth masks, medical/surgical masks, and N95s or KN95s. Eating and/or drinking are prohibited while in the classroom.

Any student not wearing a mask or who consistently forgets one will be dismissed from class. The student will also be referred to the Dean of Students, as outlined by the process on Carthage's Stay Safe website.

Stay Safe Guidelines: <https://www.carthage.edu/carthage-covid-19/stay-safe-carthage/>

Frequently Asked Questions: <https://www.carthage.edu/carthage-covid-19/faqs/>

FACULTY MENTORS

Each student will be assigned a chemistry faculty mentor to help with chemical understanding/written work/preliminary drafting. The faculty mentor will advise on all aspects of the thesis, specifically the chemistry. You are responsible for meeting with your faculty mentor at LEAST FIVE times during the course of the semester. They will also serve as a member of your faculty panel, who will evaluate your written thesis and oral defense.

SECONDARY READERS

Each student will be assigned a secondary reader to help identify areas where more background or chemical explanation is needed. This reader will also provide comments on organization, flow and scientific writing. They will also serve as a member of your faculty panel, who will evaluate your written thesis and oral defense.

TENTATIVE COURSE SCHEDULE

Date	Class Topic
September 10	Thesis Overview/Literature Searches/Wording/Thesis Structure/SCHOOLGY
WEEK of Sept 13	Mentor Meeting #1
September 13	ChemDraw/ Figures and Tables
September 17	Key Components of Results and Discussions Peer Review of Figures
WEEK of Sept 20	Mentor Meeting #2
September 20	Peer Review of Results and Discussion Section
September 24	Key Components of Introductions; References and Plagiarism
September 27	First Draft of Results and Discussion with Introduction Outline to Mentor
October 1	Special Guest Speaker Tim Rhorer (Janssen)
WEEK of Oct 4	Mentor Meeting #3
October 4	Mini Practice Defenses/Mentor Meetings/Work Day
October 8	Peer Review of Introductions
October 11	Mini Practice Defenses/ Work Day
October 15	First Full Draft of Thesis to All Readers
October 18	How to Write an Abstract and Thesis Abstract Writing
October 22	Meet with Mentor About Full Draft; Mentor Meeting #4
October 25	FALL BREAK
October 29	Practice Defenses; Revised Full Draft of Thesis to ALL Readers
November 1	Practice Defenses
November 5	Meet with Second Reader and Mentor (#5) about Thesis Draft
November 8	How to Give a Good Oral Presentation
November 12	Final Draft of Thesis Due to All Readers Electronic and Paper Copy
November 15	<i>Thesis Defenses (3) (11:45AM to 1:30PM)</i>
November 16	<i>Thesis Defenses (2) (11:15 AM-12:45 PM) Thesis Defenses (2) (4:00 PM-5:00 PM)</i>
November 18	<i>Thesis Defenses (2) (11:15 AM-12:15 PM)</i>
November 19	<i>Thesis Defenses (3) (11:45AM to 1:30 PM)</i>
November 22	<i>Thesis Defenses (3) (11:45AM to 1:30PM)</i>
November 29	Peer Review Oral Presentations
December 3	Resume Writing/Cover Letters; Practice Oral Presentations
December 6	Practice Oral Presentations
December 7	<i>Oral Presentations (5) (4:00 to 5:40 PM)</i>
December 8	<i>Oral Presentations (5) (4:00 to 5:40 PM)</i>
December 9	<i>Oral Presentations (5) (4:00 to 5:40 PM)</i>
December 10	Peer Review of Resume/Cover Letter
December 13	Celebration; Resume Writing/Cover Letters Due
December 15	FINAL EXAM (10:30-12:30 PM) Senior Reflection

LIBRARY

The librarians at Hedberg Library are available to assist you with any research questions you may have. The librarian for this class is Carol Sabbar. You can access all the library's resources at <https://carthage.libguides.com> . The subject guide is located at <http://carthage.libguides.com/chemistry> "

EVALUATION

Grades will be determined based on total points accumulated.

Written Thesis	40%
Oral Presentation	20%
Participation/Assignments/Mentor	15%
<u>Thesis Defense</u>	<u>25%</u>
Total Points	100%

GRADING SCALE

92-100	A	80-81	B-	68-69	D+
90-91	A-	78-79	C+	62-67	D
88-89	B+	72-77	C	60-61	D-
82-87	B	70-71	C-	59 and below	F

PARTICIPATION/DRAFTS/MENTOR MEETINGS/CAREER MATERIALS

Participation in class is essential. Attendance during In-Class Writing Days is expected. As a PEER REVIEWER you will provide feedback to your peers and help each other produce the best possible thesis and presentation. Points will be assigned to turning in drafts, assignments and resume/cover letter on time, to your effectiveness and responsibility towards peer reviewing and to active participation in mentoring meetings.

LEARNING CHALLENGES

Carthage College strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers due to your disability (including mental health, learning disorders and chronic medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, you also need to register with Diane Schowalter in Learning Accessibility Services (dschowalter1@carthage.edu).

SCHOOLGY

Course information and reading assignments will be placed on Schoology. Access to Schoology is through the My.Carthage page. (www.carthage.edu) or OneLogin.

ELECTRONICS IN THE CLASSROOM

In order to practice learning in a work/professional environment, this classroom will be designated as a low tech classroom. The following electronic devices are not to be used during class periods: cell phones and digital devices. A laptop may be used for the purpose of working on assignments. If you are expecting an emergency phone call, please talk to us at the beginning of class and you will be allowed to keep your cell phone on during that period.

ACADEMIC HONESTY

With respect to writing your thesis, all words/figures/mechanisms **MUST BE YOUR OWN**. Non-original work is not allowed, unless the figure or table is TOO difficult to reproduce. Non-original work includes any source that is not written/used by you, (i.e., Wikipedia, Internet, journals, textbooks, etc.). With respect to quoting, only one sentence may be quoted, no paragraph or multiple sentences are allowed.

Please consult the College Academic Honesty Guidelines in the Student Community Code, <http://www.carthage.edu/campus-life/code/academic-concerns/> especially related to plagiarism. **You are responsible for reading and for understanding the Student Community Code book with respect to citing sources, plagiarism and copying work.** If you have any clarification questions, please feel free to ask me.

The first offense will result in a firm warning and review of the student community code. A second offense can result in a report of plagiarism to the Provost's office.

BASIC NEEDS POLICY

Your safety and well-being is more important than anything in this class. Please feel free to reach out to us if you are struggling for any reason – including issues securing food, housing, or personal safety. In addition to any support we can provide, we will work hard to help you find every resource available to you at Carthage.

RESPECT

The most effective learning environment is one where all students feel safe and comfortable. This includes the classroom, lab, and office. In this course, we strive to create an environment free of discrimination or judgment. We hope *all* students, regardless of sex, gender, race, ethnicity, sexual preference, disability, veteran status, religious and political beliefs, will feel comfortable and included. We will not tolerate discriminatory language from ourselves or our students. Please contact us if you have any concerns. Please note that respect while others are talking is necessary in any learning environment (i.e., group discussions, professor presentations or student presentations). Please avoid talking, tardiness, and/or disruptive behavior while the instructor or other students are presenting.

Thesis Guidelines:

- Your 13 to 15-page thesis will present and interpret data from either a) an independent research project or b) a research topic of your choice.
- Your thesis must include analyzable, chemical data; (e.g., figures, tables, schemes, NMR spectra). The thesis should feature specific chemistry and mechanisms, not just a class of chemicals. Spectra should be labeled and explained. Analytical methods should include calibration curves and appropriate error analysis.
- Your thesis should reference at least 5 additional sources from the chemical literature that help you understand and frame your work. Review articles may be useful here, but most of the references should be from the primary literature from 2008 and later.
- Your written thesis should be aimed so that your SENIOR chemistry majors can understand it.

Thesis Defense Guidelines:

- Bring a copy of your written thesis to the defense.
- You will be questioned for 25 minutes by three faculty members on the chemical and technical details of your written thesis, the discussion and conclusions of your thesis, and further applications of your thesis. **Questions will also examine your ability to apply previous course knowledge to chemical concepts in your thesis.**
- During the thesis defense, the faculty panel expects you to attempt to answer all questions, even if you don't know an answer. The panel will guide you to an answer as needed.

Presentation Guidelines

- A 10 to 12-minute presentation will be given to parents, faculty, friends and the Carthage community.
- Chemistry faculty will not ask questions following the presentation, unless no questions are fielded from the audience.
- All faculty will evaluate your presentation.
- Even if you are not presenting, you are expected to support your colleagues in the course by attending the presentations.

FINAL COMMENTS

The instructors reserve the right to change the syllabus, when appropriate. The class will be notified of any changes.

Remember senior thesis is a culmination of your college career in chemistry. This course allows you to demonstrate and explain your chemical knowledge to the faculty and your peers in the department. You are responsible for the work you produce. This course should also be a celebration of the chemistry you have learned over 3 years.

Take pride in your work and the knowledge you possess!!!